

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/L2005/000038

International filing date (day/month/year)
12.01.2005

Priority date (day/month/year)
13.01.2004

International Patent Classification (IPC) or both national classification and IPC
G01N21/17

Applicant
GLUCON INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IL2005/000038

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	
Inventive step (IS)	Yes: Claims	1-23
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

1 Reference is made to the following documents:

- D1 : BEARD P C et al.: "EVALUATION OF AN OPTICAL FIBRE PROBE FOR IN VIVO MEASUREMENT OF THE PHOTOACOUSTIC RESPONSE OF TISSUES" PROC. OF THE SPIE, SPIE, BELLINGHAM, VA, US, vol. 2388, (1995-02-06), pp. 446-457, XP008029084
- D2 : BEARD P C ET AL: "OPTICAL FIBER PHOTOACOUSTIC-PHOTOTHERMAL PROBE" OPTICS LETTERS, OPTICAL SOC. OF AMERICA, WASHINGTON, US, vol. 23, no. 15,(1998-08-01), pp. 1235-1237, XP000783073
- D3 : US 2003/010898 A1
- D4 : EP 0 478 410 A
- D5 : WO 98/03852
- D6 : POULET P et al.: "IN VIVO CUTANEOUS SPECTROSCOPY BY PHOTOACOUSTIC DETECTION" MEDICAL AND BIOLOGICAL ENGINEERING AND COMPUTING, PETER PEREGRINUS, STEVENAGE, GB, vol. 39, no. 635,(1985-11-01), pp. 585-588, XP000647347

2 The application relates to a photoacoustic apparatus for detecting signals from a region of a body, the apparatus comprising a light source, a light pipe having an output aperture and at least one input aperture, the light pipe receiving the light from the light source at the input aperture and transmitting the received light to the output aperture for illuminating the region, and an acoustic transducer that generates signals responsive to the acoustic energy from the photoacoustic waves.

Such an apparatus is known from any of documents D1 to D6.

The subject-matter of the invention differs over that of the known apparatus in the feature that the photoacoustic energy to which the acoustic transducer is responsive is incident on the optical output aperture (claim 1).

The subject-matter of claim 1 is thus novel (Art. 33(2) PCT).

Advantage of the invention is that "blind spots" on the acoustic transducer are avoided.

In none of the documents known from the prior art is such an effect described or hinted at; all the documents are silent about the problem of blind spots.

The subject-matter of claim 1 is thus inventive (Art. 33(3) PCT).

3. Claims 2-23 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
4. The invention is industrially applicable (Art. 33(4) PCT).

Re Item VII

1. Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (cf. paragraph 2 above) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Re Item VIII.

The requirements of Art. 6 PCT are not met, the reasons being the following:

1. In claim 1, the last feature ("at least one acoustic.....output aperture") defines the desired effect to be obtained rather than defining the technical features (shape, mutual arrangement) of the elements of the apparatus that would allow to obtain such an effect.

Still in claim 1, the location of the acoustic transducer is not defined.
The claim is thus unclear.

2. Claims 5-8 and 12 describe a desired effect rather than defining the technical features that make it possible to achieve such an effect. These claims are thus unclear.